

Claims:

1. A tubular radially expansible metal structure (2) having an abluminal major wall surface, a luminal major wall surface and a radial wall thickness therebetween, with struts (3) defining through-apertures in the wall, the structure further having a longitudinal axis and defining a plurality of expansible rings (4) arranged adjacent one another along the longitudinal axis of the structure, each of the rings (4) defining at least one bridge strut (14A, 14B) and adjacent rings being linked by at least one bridge (12) formed by co-operation between adjacent bridge struts (14A, 14B) on adjacent rings (4),

characterised in that

said bridge (12) exhibits reduced electrical conductivity throughout the wall thickness, and there are a plurality of said bridges, distributed throughout the length of the tubular structure and configured and arranged to divide the tubular structure into axially spaced and electrically insulated sections.

2. The structure according to claim 1, wherein the bridge (12) comprises inter-engaged joint portions.
3. The structure according to claims 1 or 2, wherein the bridge (12) comprises complementary mating portions (16A, 16B).
4. The structure according to claim 3, wherein the mating portions (16A, 16B) are male-female form-fitting portions.

5. The structure according to claim 4, wherein the form-fitting portions have a frusto-conical shape.
6. The structure according to claims 4 or 5, wherein the male form-fitting portion comprises a mating head portion (16A) having an arcuate end surface, and the female form-fitting portion comprises a mating arcuate end portion (16B) with a rebated internal abutment surface to receive the arcuate head portion.
7. The structure according to any one of claims 3 to 6, wherein at least one of the mating portions carries a biocompatible adhesive for enhancing the rigidity of the bridge.
8. The structure according to any one of the preceding claims, wherein the portion of reduced electrical conductivity comprises a portion, in which the chemical composition of said metal structure is modified.
9. The structure according to one of claims 3 to 8, wherein the portion of reduced electrical conductivity comprises a conductivity reducing layer on an abutment surface of at least one of the complementary mating portions.
10. The structure according to any one of the preceding claims, wherein the conductivity reducing portion comprises an oxide layer.
11. The structure according to claim 1, wherein said bridges comprise a sleeve (50) connected to adjacent bridge struts (42, 44), and wherein said bridge struts are spaced apart within said sleeve.
12. The structure according to any one of the preceding claims, wherein the length axis of the bridge is not parallel to the longitudinal axis of the structure.

13. The structure according to any one of the preceding claims, wherein the bridge has the shape of a meander.
14. The structure according to any one of the preceding claims, wherein the rings have the shape of a meander.
15. The structure according to claim 14, wherein the number of bridges connecting one ring with an adjacent ring is less than the number of meanders in one ring.
16. The structure according to any one of the preceding claims, wherein the shape of the bridge resembles that of an "S".
17. The structure according to any one of the preceding claims, wherein the structure is made of a nickel titanium shape-memory alloy.
18. The structure according to any one of claims 1 to 16, wherein the structure is made of stainless steel.
19. The structure according to any one of the preceding claims, wherein the structure is a medical stent.
20. A method of manufacturing a tubular radially expansible metal structure (2) having an abluminal major wall surface, a luminal major wall surface and a radial wall thickness therebetween, the method comprising the steps of:

forming a plurality of expansible rings (4) so that the rings are arranged adjacent one another along the longitudinal axis of the structure, and that each of the rings define at least one bridge stut (14A, 14B);

forming bridges (12) between adjacent rings by approximating respective bridge struts (14A, 14B) of adjacent rings;

characterised by the step of

furnishing said bridges (12) between each ring and its adjacent ring with reduced electrical conductivity throughout the wall thickness, such that there are a plurality of bridges distributed throughout the length of the tubular structure, and arranged and configured to divide the tubular structure into axially spaced and electrically insulated sections.

21. The method according to claim 20, wherein the step of forming the expansible rings includes the steps of:

providing a tubular workpiece;

mounting the tubular workpiece on a support; and

laser-cutting the workpiece to form meanders in the rings arranged longitudinally adjacent one another, each having a first end and a second end, and at least one complementary mating portion (16A) arranged on said first end of each of said rings to mate with a complementary mating portion (16B) on the second end of the adjacent ring.

22. The method according to claim 20 or 21, wherein the step of linking each of the rings with an adjacent ring by at least one bridge includes the steps of:

oxidising abutment surfaces on said bridge struts, whereby each bridge includes a conductivity reducing layer which constitutes said portion of reduced conductivity.

23. The method according to claim 20 or 21, wherein the step of linking each of the rings with an adjacent ring by at least one bridge includes the steps of:
- providing an insulating sleeve (50); and
 - mounting said sleeve to adjacent bridge struts (42, 44) on adjacent rings, such that the bridge struts are spaced apart within said sleeve.
24. A method of visualising a lumen supported by a tubular metal structure (2) deployed in a bodily lumen, the method including the step of:
- subjecting said bodily lumen to an MRI imaging technique, said tubular structure (2) comprising a plurality of rings (4) arranged adjacent one another along the longitudinal axis of the structure, each ring being linked with an adjacent ring by at least one bridge (12) exhibiting reduced conductivity throughout the wall thickness of the structure, the plurality of bridges being configured and arranged to divide the tubular structure into axially spaced and electrically insulated sections, whereby artefacts in the MRI-image arising from said tubular structure are reduced.